LIGATION OF THE LEFT COMMON ILIAC ARTERY.

WITH REPORT OF A RECENT CASE.

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So few cases of ligation of the common iliac arteries have been reported that the one here presented seems to me to be of sufficient interest to be placed on record.

Prof. Z., in April, 1905, was referred to me for examination and advice by Dr. W. A. Dickey, of Toledo, and Dr. F. M. Firmin, of Findlay, Ohio. He was 56 years of age, of American birth and had been many years a prominent educator in the State.

About seventeen months prior to examination, he had a severe fall, and a short time after noticed a small pulsating tumor in the left buttock, probably arising from the sciatic artery near its exit through the sacro-sciatic foramen. It had recently been rapidly increasing in size until the pulsation could be felt over almost the entire buttock. Aneurysm was apparently present and operation advised.

On April 22nd I operated at Robinwood Hospital. The size of the aneurysm was such that successful ligation of the artery above it and below its exit from the pelvis seemed extremely improbable. For this reason the abdomen was opened and the left internal iliac artery ligated near its division from the external.

The patient made an uneventful recovery. Pulsation ceased entirely, and the mass rapidly diminished in size. A complete and satisfactory cure was thought to have been accomplished; but seven months later pulsation was again noticed in a small enlargement arising from the former site of the trouble. Immediate operation was again advised, but was deferred for nearly three months, when the mass had increased very considerably, but had not reached anything like its former dimensions.

On April 18, 1906, at the City Hospital in Findlay, with the assistance of Drs. F. M. Firmin and H. L. Green, I dissected down to the pulsating tumor in the buttock, thinking to ligate

the artery above it; but the farther I continued the dissection, the larger the sac grew and it was found to be absolutely impossible to ligate healthy artery outside the pelvis; neither was the Matas operation feasible.

The abdomen was again opened and compression made on the external iliac, with the idea that the blood supply of the aneurysm might come from some unusual branch of that artery, inasmuch as the internal iliac had already been occluded. A deceptive cessation of pulsation in the aneurysmal sac appeared, and the artery was quickly ligated; but to our amazement on re-examination of the tumor, we found pulsation had not been affected in the least.

Nothing was now left to do but ligate the common iliac and this was accomplished with some difficulty. A silk ligature was placed around it and tied close to the bifurcation of the aorta. Pulsation in the tumor now ceased entirely and the abdomen was closed. Through the incision in the buttock first made, the sac was freely opened, a large blood clot turned out, and the collapsed walls tied off at as high a point as possible.

Within three days the leg below the knee began to show signs of gangrene which soon fully developed, and on April 24th it was amputated at about the junction of the upper and middle thirds. The flaps promptly sloughed and reamputated, on May 16th, at a point about six inches above the knee. The wound now rapidly healed as did the incision in the buttock.

When the abdomen was reopened, incision was made in the line of the old one, to which a portion of the large intestine had become cemented and unfortunately a small opening was made into it. This was closed and no trouble expected from it; but a week later, a nurse, in giving an enema, found water escaping through the abdominal incision, and an annoying fecal fistula developed. This soon closed spontaneously.

Recovery, though slow, was complete, and in September the patient resumed his arduous duties as Superintendent of the public schools of a large city.

A résumé of the literature of ligation of the common iliac artery shows that this operation has been very infrequently performed, and that the death rate following it has been and is yet, very high; also that gangrene of the leg is of frequent occurrence, and beyond the power of the surgeon to prevent.

Carl Dreist of Strassburg, in 1903, published a paper in the Ztschr. fur Chir., compiling all the cases found in the literature up to that time. In reporting these cases he adopted the classification of Kümmel, placing them under four heads; first, those that were performed only for the purpose of checking hemorrhages; second, to cure aneurysms of large vessels; third, to devastate vascular pulsating tumors; and fourth, to prevent bleeding during extirpation of tumors or exarticulation of the femur.

He found that fifty-nine cases had been operated prior to 1880, or in the pre-antiseptic era; and since then, until 1903, he was able to find reports of nineteen more.

In addition to the cases reported by Dreist, in a search which I had made in the Surgeon General's office at Washington, I have been able to add one more which was reported in the British Medical Journal in 1903, pages 77 and 78, by Arthur H. Martin, in which a private in the late Boer war received a bullet-wound in the left groin and an aneurysm of the left iliac artery developed, for which ligation of this artery was done with recovery.

A summary of the cases reported, including my own, would show that the iliac arteries have been ligated all told eighty times, with fifty-six deaths, or a death rate of 70 per cent. over all; that fifty-nine of these operations were done prior to 1880, during the pre-antiseptic era, with forty-six deaths, or a death rate of 77.97 per cent.; and that in the twenty-one operations done since 1880, presumably with aseptic precautions, there were ten deaths, which shows a reduction in the death rate to 47.64 per cent., a very decided improvement. Gangrene of the leg has occurred in the last twenty-one cases seven times, or in 33⅓ per cent. In the fifty-nine cases prior to 1880, the same number, seven, with six deaths were reported. This is probably an error; for no doubt there were many more.

Dreist says very truly that although the death rate has been lowered in later times by aseptic methods, the operation is still a dangerous procedure, and should only be employed in the presence of the gravest necessity.